Steps to Deploy Model Using Edge Impulse Studio

To deploy the final optimized sign language translation model onto the Nicla Vision board using Edge Impulse, follow the steps below:

1. **Access the Public Project**
   Open the Edge Impulse project titled [Portable AI-Based Sign Language Translator](#), which has been shared publicly.

2. **Open the Impulse**
   Navigate to the impulse named **"Main"** within the project. This impulse includes the preprocessing, feature generation, model training, and classification blocks.

3. **Run the Full Pipeline**
   Execute each block in the pipeline in sequence:

   - Data preprocessing
   - Feature generation
   - Model training
   - Model testing and evaluation

4. **Export the Final Model**
   After validating the model performance:

   - Go to the **Deployment** tab
   - In the "Deployment Type" dropdown, select **OpenMV Library**
   - Click **Build** to generate the deployment package

5. **Deploy to Nicla Vision**
   Once the `.zip` deployment package is downloaded:

   - Extract the contents of the archive
   - Rename the `object_detection.py` file to `main.py` and copy it to the Nicla Vision
   - Also copy `trained_model.tflite` and `labels.txt` to the root directory of the Nicla Vision

6. **Run the System**

   - Power the Nicla Vision using USB or a battery
   - The device will automatically load the model and begin detecting supported hand gestures
   - Real-time translation output and detection overlays will appear on the connected interface